POLICY RESEARCH WORKING PAPER 2208

Ethnic Partition as a Solution to Ethnic War

An Empirical Critique of the Theoretical Literature

Partition theorists argue that when violent ethnic conflict is intense, civil politics cannot be restored unless ethnic groups are demographically separated into defensible enclaves. The empirical evidence suggests otherwise.

Nicholas Sambanis

The World Bank
Development Research Group
Public Economics
October 1999

Summary findings

Some theorists of ethnic conflict argue that the physical separation of warring ethnic groups may be the only possible solution to civil war. Without territorial partition and (if needed) forced population movements, they argue, ethnic war cannot end and genocide is likely.

Other scholars have counterargued that partition only replaces internal war with international war, creates undemocratic successor states, and generates tremendous human suffering.

So far this debate has been informed by few important case studies.

Sambanis uses a new set of data on civil wars to identify the main determinants of ethnic partitions and to estimate their impact on the probability of war's recurrence, on low-grade ethnic violence, and on the political institutions of successor states.

Sambanis's analysis is the first large-sample quantitative analysis of the subject, testing the propositions of partition theory and weighing heavily on the side of its critics.

He shows that almost all the assertions of partition theorists fail to pass rigorous empirical tests.

He finds that, on average, partition does not significantly reduce the probability of new violence. A better strategy might be to combine ethnic groups, but most important is to establish credible and equitable systems of governance.

It is also important not to load the strategy with subjective premises about the necessity of ethnically pure states and about the futility of interethnic cooperation.

This paper — a product of Public Economics, Development Research Group — is part of a larger effort in the group to study the economics of civil wars. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hedy Sladovich, room MC2-609, telephone 202-473-7698, fax 202-522-1154, Internet address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at http://www.worldbank.org/html/dec/Publications/Workpapers/home.html. The author may be contacted at nsambanis@worldbank.org. October 1999. (35 pages)

ETHNIC PARTITION AS A SOLUTION TO ETHNIC WAR: AN EMPIRICAL CRITIQUE OF THE THEORETICAL LITERATURE

Nicholas Sambanis
The World Bank
DECRG, MC 2-504
1818 H Street, N.W.
Washington, DC 20433
Tel: (202) 458-9663
nsambanis@worldbank.org

I thank Michael Doyle, Russ Leng, Jeff Herbst, and Philippos Savvides for very useful comments and suggestions.

Introduction: The Theoretical Case for Partition

In two influential articles, Chaim Kaufmann (1996, 1998) developed a set of hypotheses on the usefulness of ethnic partition as a solution to civil war, building on the arguments of John Mearsheimer and Stephen Van Evera (1995). Before them, a first wave theorists first considered the benefits and costs of partition. Among the heavyweights of the first-wave theorists was Donald Horowitz, who wrote that:

> "If the short run is so problematical, if the constraints on policy innovation are many, if even grand statements need patchwork readjustment, perhaps it is a mistake to seek accommodation among the antagonists. If it is impossible for groups to live together in a heterogeneous state, perhaps it is better for them to live apart in more than one homogeneous state, even if this necessitates population transfers. Separating the antagonists—partition—is an option increasingly recommended for consideration where groups are territorially concentrated." [1]

It is hard to argue with such a statement—assuming that "the constraints of policy innovation" and "the short run" can be accurately measured *ex ante*. In such a case, it would be easy to recommend partition to some countries while trying to patch up others. Nevertheless, neither the first nor the second wave of theorists was able to suggest ways to measure the barriers to ethnic reconciliation (except in the extreme case of genocide). On the contrary, second wave theorists have taken the theory further to argue that all ethnic wars that cross some critical (though still undefined) threshold of violence should be resolved with partition—regardless of the degree of territorial concentration of the ethnic groups.

These views have fueled a scholarly and policy debate on the merits of ethnic partition as a strategy to end ethnic wars. However, the debate has so far been based on a few, albeit important, case-studies. Although it now has a history of several decades (since the partition of India), partition theory remains largely untested, yet its intuitive appeal has increased its popularity in academic and policy circles. To help policymakers think about partition in concrete terms, I develop and use a new data-set of civil wars and empirically test the set of hypotheses that constitute partition theory.

Let me first attempt to summarize the theory. According to the second wave of partition theorists (who are the focus of this paper), violent ethnic conflict implies that civil politics cannot be restored unless "ethnic groups are demographically separated into defensible enclaves... Solutions that aim at restoring multi-ethnic civil politics and at

---

[1] Donald Horowitz (1985, 588). See also Lijphart (1977, 44-47), Dahl (1971, 121) and Huntington (1971, 14). This first wave of theorists was more careful and also discussed difficulties with and dangers of partition; see, for example, a brief though insightful discussion in Horowitz (1985, 588-91).

avoiding population transfers—such as power-sharing, state re-building, or identity reconstruction—cannot work because they do nothing to dampen the security dilemma" (Kaufmann 1996, pp. 137, 139). The so-called "security dilemma" is at the core of partition theory. It arises when one community faces a distrustful other and one's actions to increase one's own security are perceived as threatening to the security of others (Posen 1993).[2]

The dilemma is allegedly intensified when the opponents belong to different ethnic groups: ethnic civil wars, argue partition theorists, are characterized by strong and fixed identities based on ethnicity, by weak ideological and strong religious overtones, by the use of tales of atrocities to strengthen mobilization, and by easy identification of identities and a small scope for individual choice. In other words, because it is easy to identify one's ethnic group, once a war starts, all members of the group must be mobilized because other ethnic groups will inevitably recognize them as enemies (Kaufmann 1996, 139-147). This inescapable destiny reinforces the dynamics of war and must lead to partition since, "once ethnic groups are mobilized for war, the war cannot end until the populations are separated into defensible, mostly homogeneous regions... Ethnic separation ... allows ... cleansing and rescue imperatives [to] disappear; war is no longer mandatory" (Kaufmann 1996, 150).

Even if we accept this fatalistic premise about the proclivity of ethnic groups toward war, we must recognize that the partition theorists' assertions are just that—simply assertions. Beyond a handful of self-selected cases, partition theorists have not presented additional proof that partition is the only viable and credible solution to civil war. They have not even proven that partition outperforms other war outcomes. Though their theory is plausible under a set of explicit assumptions about ethnic group behavior, partition theorists must be taken to task.

This paper provides a formal test of partition theory, starting with an overview of other scholars' objections in the next section. It then identifies the main determinants of partition and examines if partitions facilitate democratization in post-war states. It then presents a set of tests of partition's hypothesized impact on war recurrence and low-grade ethnic violence. This analysis rejects the most critical hypotheses of partition theory, showing that partitions do not help prevent ethnic war recurrence and that they may not even be necessary to stop even low-grade ethnic violence. Based on this analysis, I propose an alternative hypothesis and a set of policies for the management of violent ethnic conflict in the conclusion.

---

[2] Such suspicion and fear would be supported by actual or perceived state collapse, which transforms the domestic political environment into a near-anarchic environment that cultivates the same antagonism as among states in the international system.

Rebuttals and Counter-Rebuttals: The State of the Debate

The idea that the international community should support partitions to end civil war has inspired substantial criticism. I summarize the most significant critiques below:

Partition is a limiting solution. Ethnic cooperation may in fact be possible even after civil war. Both ethnic diffusion (Byman 1997) and third-party security guarantees (Walter 1997) could facilitate such cooperation.[3]

Partition may also be too severe a solution. Forced population movements cause tremendous human suffering and violate important human rights (Kumar 1997).

Endorsing ethnic partitions may in fact encourage partition movements in other countries, increasing the number of wars worldwide (Byman 1997; Etzioni 1992/3; Buchanan 1992).

Partitions create undemocratic successor states, likely to repress their minorities as their predecessors did before them (Kumar 1997, Etzioni 1992/93; Schaeffer 1990).

Finally, successor states will rarely be ethnically homogeneous. They may therefore incorporate new ethnic antagonisms (Byman 1997). Moreover, partition does not resolve the underlying problem of ethnic rivalry, so it is possible for civil wars that end in partition to be transformed into interstate wars between predecessor and successor states (Byman 1997; Schaeffer 1990).

The debate between partition theorists and their critics is ongoing, though some of the critiques listed above have already been settled in the literature. Below, I summarize three important arguments which I believe have been settled by other scholars.

Successful Ethnic Partitions Do Not Encourage Partition Movements Elsewhere

Critics of partition theory have argued that, if the international community supports partition in a few countries, it would be encouraging partitions elsewhere. Kaufman (1998) has successfully rebutted this criticism by arguing that the uncertainty and extreme costs of civil war would discourage the initiation of partition movements unless such movements are inevitable for domestic political reasons. Kaufman's position is also supported by a set of persuasive analyses of the "international spread of ethnic conflict," which has systematically proven that cross-country contagion effects of ethnic partition movements are rare (Lake and Rothchild 1998).

---

[3] Neither Byman (1997) not Walter (1997) are self-proclaimed critics of partition theory (Byman in fact supports partition under certain conditions). Some of their arguments, however, can be read as indirect critiques of partition theory.

Successor States May Also Incorporate Ethnic Conflict

According to partition theorists, the success of partition depends on the demographic re-organization of the new territories and on the absence of militarily significant minorities in the new states. However, in most actual cases of partition, successor states are not ethnically pure. Thus, there is an empirical basis to question a core premise of partition theory.[4] In the words of Donald Horowitz (1985, 589):

> "...the linchpin of all the arguments [for ethnic partition] is the assumption that the probable outcome of secession and partition will be more homogeneous states and, concomitantly, a lower ethnic conflict level. If the assumption were correct, the conclusion would follow. *But the assumption is wrong: the only thing secession and partition are unlikely to produce is ethnically homogeneous or harmonious states*" (italics added).

Furthermore, even if successor states were homogeneous, the mobilization perspective of ethnic conflict (Lake and Rothschild 1996; DeFiguereido and Weingast 1997; Gagnon 1995) would suggest that, unless partition is accompanied by regime or leadership reform, there is no guarantee that the political mobilization of ethnic groups in successor states will not lead those states to war or to the repression of residual minorities. Thus, the theory's claim that partition ends ethnic violence depends critically on unrealistic premises about the ethnic composition and political institutions of successor states.

Ethnic Cooperation is Possible Even Without Partition

Partition is not the only way to resolve the ethnic security dilemma. From a theoretical standpoint, non-cooperative game theory can identify a number of conditions under which a mutually beneficial Nash (i.e. non-cooperative) equilibrium can be attained. From a practical perspective, Walter (1997) has shown that external security guarantees have been successful in supporting the peaceful settlement of some civil wars.[5] This suggests that partition is certainly not the only viable solution to civil war.

Further, if a solution to ethnic competition for resources can be negotiated, then the underlying causes of violent conflict may disappear, making peaceful transitions popssible (Lake and Rothschild 1996). Even if competition persists, however, the

---

[4] See Horowitz (1985), pp. 588-91 and chapters 2 and 6.

[5] In Walter's argument, the security dilemma depends on an asymmetry of power between the government and rebels. Walter (1997) notes that *credible* external security guarantees are effective, though difficult. The difficulty in proving the credibility of the third parties' commitment amounts to indirect support of the partition thesis, though only if partition is proven to be more credible and less difficult to implement than a brokered settlement.

rationalist perspective on wart would suggest that, as long as there is a decisive outcome to the war, rational parties will not start a new war.[6]

Finally, cooperation among ethnic groups may be possible if ethnic diffusion increases as a result of the war—i.e. if the opposite of partition takes place. Byman (1997) has suggested that increased ethnic diffusion may mitigate the security dilemma, since it would reduce the probability that a single ethnic group could become politically and militarily dominant. Byman's argument derives from the theoretical literature on international alliances and posits that ethnic "balancing" against threatening groups is both possible and stabilizing.[7] A similar conclusion has been reached by a budding political-economy literature on civil wars. A number of papers in that literature have identified the determinants of civil war and some authors have found that the relationship between ethnic division and the probability of civil war is non-monotonic—i.e. the probability of civil war is greatest in cases of ethnic polarization and lowest among ethnically homogeneous or ethnically very diverse populations (Collier, Elbadawi, and Sambanis, 1999).[8] I return to this point in the conclusion.

I now turn to a series of tests of unresolved hypotheses in partition theory.

Taking Sides: New Data and New Empirical Tests of Partition Theory

The four most important questions of partition theory are still unresolved: (1) What are the main determinants of partition? (2) Does partition create democratic or undemocratic states? (3) Is partition successful in preventing war-recurrence? And, (4) does partition end low-grade ethnic violence (i.e. violence short of war)? I provide answers to these questions using quantitative analysis of a new data-set described below.

Data & Definitions

---

[6] This follows the rationalist school (particularly Fearon 1995). War reveals private information about relative power and resolve, removing the information asymmetry that may lead rational parties to fight it out rather than opt for a more efficient bargain.

[7] However, ethnic balancing can also paralyze the state. See Wagner (1993) for such an argument. Wagner argues that military victory, because it results in unitary political systems, will be more stable than any peace agreement based on ethnic balancing.

[8] There is further support of this view. Licklider (1995) has shown that identity (ethnic and/or religious) wars are no less likely to end in a negotiated settlement than are non-identity wars, apparently contradicting the predictions of partition theory. Gurr and Harff (1994) and Mason and Fett (1996) can also be read as supporting this point.

In the rest of the paper, I use a new data-set created by and used first in Doyle and Sambanis (1999). The data-set includes all civil wars that started after 1944. My definition of civil war draws on, but is not limited by, Singer and Small (1982) and Licklider (1993; 1995).[9] I have combined wars from several data-sets, including the Correlates of War Project (1982; 1992), Licklider (1995), Walter (1997), Mason and Fett (1996), Regan (1996), and Wallensteen and Sollenberg (1997). I have added or removed cases as appropriate, based on secondary and primary sources. Detailed documentation on my coding and sources can be found in Appendix B.[10] The unit of observation in the data-set is a war that has ended, though the data-set also includes six cases of ongoing wars to capture the partition theorists' interest in partition not only as a way to prevent war-recurrence, but also as a way to end ongoing wars.[11]

Definition of partition

The variable denoting partition is PART; it equals one if an event of partition is observed and zero otherwise. I understand partition as a war outcome that involves border adjustment accompanied by demographic changes. This is a broad definition that differs slightly from Kaufmann's (1998). To justify a narrower definition of partition, Kaufmann (1998, 125) wrote that "we should focus on partition rather than secession cases ... to assess whether international intervention reduces or increases the costs of ethnic conflict." Thus, he defines partitions as "separations jointly decided upon by the responsible powers: either agreed between the two sides (and not under pressure of imminent military victory by one side), or imposed on both sides by a stronger third

---

[9] I consider an armed conflict to be a civil war if (a) the war has caused more than one thousand deaths; (b) the war challenged the sovereignty of an internationally recognized state; (c) the war occurred within the recognized boundary of that state; (d) it involved the state as one of the principal combatants; (e) and the rebels were able to mount an organized military opposition, inflicting casualties on the state.

[10] Appendix B describes my sources and coding decisions and presents descriptive statistics and other information on the variables in the data-set. Since it a long document (over 100 pages), it cannot be included here, but it can be obtained directly from the author along with the data-set used in this analysis. The most important difference between my coding of wars and that of others, refers to the periodization of wars. I have often broken a single observation of war in other data-sets into more observations or, conversely, I have collapsed two or more observations in one. I did this by uniformly applying a simple rule: I consider one or more war events to constitute a single observation if the wars are between the same parties, over the same issues, not separated by a substantial period of non-violence and/or the signing of a peace agreement or a major truce.

[11] Dropping those cases did not affect any of the models estimated in later sections.

party. He then defines secessions as new states created by the unilateral action of a rebellious ethnic group" (Kaufmann 1998, 125, fn 12).

However, this narrower definition does not allow a full test of the partition theorists' far-reaching propositions. Moreover, the narrow definition requires the re-classification as secessions of cases originally treated as partitions in Kaufmann (1996); and this definition is even problematic for some of the cases Kaufmann (1998) lists as partitions. An example of the latter problem is the Cyprus case, which Kaufman (1998) classifies as a *de facto* partition. However, the 1974 partition of Cyprus was neither the outcome of the parties' agreement nor an imposition by a third party. Rather, this *de facto* partition was the result of military victory by one side—the Turkish side.[12]

Given that the narrow definition is problematic even for Kaufmann's own cases, I use my broader definition and I combine the cases of partition and secession listed in Kaufmann's 1996 and 1998 articles.[13] I also add other cases that satisfy my definition but are not in Kaufmann (1996, 1998). Since I am concerned with partition as a solution to civil war, I do not consider cases of peaceful partition.[14] Table 1 lists all partitions.

Insert Table 1 about here

---

[12] It is well known to scholars of the Cyprus problem that Turkey and the Turkish Cypriots constituted and acted as a single party both during the violent part of that conflict (1963-1974) and during the subsequent negotiation phases (see Sambanis 1999).

[13] Other studies also use the broad definition, given that the distinction between secession and partition seems artificial. See, among others, Heraclides (1991) and Horowitz (1985), who use the terms interchangeably.

[14] I only consider post-World War II cases. Thus, I exclude the partition of Ireland (I consider the subsequent Northern Ireland civil war as ongoing until the Good Friday agreement is implemented). Cases of peaceful partition are also excluded: e.g., Slovenia (1991); Macedonia (1992); Czechoslovakia (1993); Singapore (1965). I also exclude two cases which I believe were erroneously classified as partitions in Kaufmann (1998, 1996). I exclude Iraq (1991) because there is no recognized, functional, or even autonomous Iraqi Kurdistan and the territory and its population would have been within reach of the Iraqi military had it not been for the US-enforced no-fly zone. I also exclude Chechnya (though this decision is debatable) because the partition effort was suppressed and Chechnya is perhaps better described as 'effectively autonomous' rather than independent. In any case, including these two cases would only strengthen subsequent arguments in this paper.

Although the cases of partition are known, the literature has not yet identified the conditions under which partitions are likely to occur. In the next section, I identify a set of relationships between the probability of partition and a set of explanatory variables.

What Are the Main Determinants of Partition?

Using my data-set of 126 cases of civil wars (which include 22 partitions), I estimate four logistic models of the incidence of partition.[15] The explanatory variables include the type of the war (was it an ethnic/religious, or ideological war?); the war's human toll (number of deaths and displacements); the depth of ethnic divisions in the country; the outcomes of the war (did it end in a truce, a settlement, or a decisive military victory?); and a number of socio-economic indicators of the country's overall level of development. Table 2 presents the statistical results.

Insert Table 2 about here

The type of the war is an important determinant of partition. Identity wars (i.e. ethnic and religious wars) are strongly and positively correlated with partition in models 1-3. Model 4, which controls for income inequality and for the country's overall level of economic development, shows a weaker correlation between identity wars and partition than the previous three models.[16] Overall, however, all four models suggest that partition is more likely to occur following an identity war rather than an ideological war, which seems to justify the partition theorists' preoccupation with ethnicity.

Looking deeper into the relationship between ethnic heterogeneity and partition, however, I do not find a significant correlation between the two. Ethnic heterogeneity (measured as an index of racial, religious, and linguistic divisions) is not a significant determinant of partition when it is entered independently in the equation. However, when ethnic heterogeneity is multiplied with population size, I find their interaction to be positively and significantly correlated with partition in all four models (Table 2). This suggests that, controlling for the other explanatory variables, partition will likely occur only when ethnic groups are large. Large ethnic groups may be better able to overcome the coordination problems associated with mounting an effective rebellion and may stand a better chance of establishing a viable new state after partition.

---

[15] All four models (with robust standard errors) have good fit to the data (the pseudo-R^2 ranged from 48.4% to 53.7% and the classification success ranged from 88% to 91.94%).

[16] In model 3b, I dropped the 6 cases of ongoing war. The results were unaffected. In model 4, identity wars (WARTYPE) are significant at the 10% level. I proxy overall economic development by the level of pre-war per capita energy consumption. There is a mild negative correlation between identity wars and income inequality (-0.1157) and a higher positive correlation between identity wars and economic development levels (0.16) which may explain the increase in the standard error of WARTYPE in model 4.

Quite expectedly, I find that partitions are positively and significantly correlated with the level of violence (measured as the natural log of deaths and displacements--LOGCOST). This variable is very robust and, since deaths and displacements chronologically precede the occurrence of partition, these results may suggest a causal relationship between high levels of violence and partition.[17]

War outcomes were also very significant determinants of partition in all four models. There were no partitions if the government won a military victory. By contrast, informal truces and rebel victories are significant and positively correlated with partition.

Testing the relationship between partition and socio-economic indicators, I found a set of economic variables in model 2 individually insignificant, but a joint significance test of five variables suggests that socio-economic variables are jointly significant if we control for time and place.[18] In model 4, I found a positive correlation between the level of energy consumption (a proxy for overall development) and the probability of partition.

Income inequality is also significant, though negatively correlated with partition, suggesting that partition is more likely when there is more income equality, which seems counter-intuitive.[19] The dummy variables for geographical location and for the decade during which the war started pick up time- and place-specific effects, but are insignificant in most models. War duration is non-significant (results not reported), which suggests that partition is equally likely after short or long wars.

To summarize, I find that partitions are more likely after costly ethnic and religious wars in countries with large ethnic groups and a relatively higher level of economic development as well as in cases that the war ended in rebel victory or informal truce. Having identified these correlates of partition, I can now test the three critical hypotheses of partition theory: (1) that partitions create successor states that are at least as

---

[17] Even if we only measure deaths and not refugees (as in the LOGDEAD variable), the results are unaffected (see estimates of model 1).

[18] The joint significance test of (GEO, DECADE, ILLIT, GDP, LIFES) yields a $X^2(5) = 16.23$, with Prob > $X^2 = 0.0062$. The lack of individual significance is probably due to inflated standard errors due to few degrees of freedom and considerable colinearity among the right-hand-side variables. The signs of these variables are also influenced by these colinearities, thus I do not interpret them.

[19] The direction of this correlation, however, may be due to measurement error since reliable data was often not available for the relevant years; or it may be due to colinearity between income inequality and energy consumption, since I used GDP data to impute missing values of both of these variables.

democratic as their predecessors, if not more so; (2) that partitions reduce the risk of war-recurrence; and (3) that partitions reduce low-level ethnic violence after the war ends.

Does Partition Create Undemocratic States?

Kaufmann (1998, 124) has argued that successor states are generally no less democratic than their predecessors and that they can even be more democratic. I test this hypothesis using data on levels of democracy and autocracy in all countries in my sample.[20] I created a variable labeled GURR, measuring the level of democracy two (GURR2) and five years (GURR5) after the end of the war.[21] Note that I include both predecessor and successor states in the list, since we should care about what happens to the political institutions of both after partition.

Partitioned countries have a mean and standard deviation of GURR2 of 9.82 and 6.14, respectively. The corresponding values for non-partitioned countries were 7.95 and 6.36, respectively. A score of 20 would have suggested a complete democracy, whereas a score of 0 a perfect autocracy. The computed averages reveal that countries that have experienced a civil war, regardless of whether or not they have been partitioned, are non-democratic two years after the end of the war. This may be an outcome of the war or it may be due to a legacy of undemocratic institutions. To measure those "legacies," I created a variable labeled GURRLAG5, measuring the average democracy index during the five years prior to the start of the war. In Table 3, I list all partitions and their GURR2 and GURRLAG5 indices. I find eight cases that support Kaufmann's hypothesis that successor states are no less democratic than their predecessors and five cases that do not support that hypothesis.

Insert Table 3 about here

These results, however, are only descriptive. More analytical results can be obtained by estimating multi-variable OLS regressions of GURR2 (and GURR5) using partition (PART) among the explanatory variables. The results of such regressions are presented in Table 4, showing clearly that partition is not significantly correlated with the level of democracy in countries just out of a civil war. Nearly all of the other control

[20] The original data was created by Tedd Gurr and has been used widely in the international relations literature, especially to facilitate tests of the democratic peace theory. See Gurr's data and codebook at: http://www.bsos.umd.edu/cidcm/polity/

[21] I added Gurr's democracy and autocracy scores using his Polity3 (May 1996) data as follows: GURR = [DEMOCRACY+ (10-AUTOCRACY)]. The resulting variable ranges from 0 to 20. The Polity3, May 1996 data ends in 1994, so I imputed 35 missing values out of 121 cases using the political rights index of the Freedom House project after I established that there was a very close correlation between Gurr's democracy index and Freedom House's political rights index.

variables are significant, however. There is a strong positive correlation between democratic post-conflict states and the presence of third-party peace operations. There is also a negative significant relationship between the level of democracy and the size of the government's military, which suggests that troop demobilization and force reductions in post-conflict states may be necessary to promote peace and democracy after civil war. War duration is also highly significant and positively correlated with the level of democracy. Real per capita GDP is positively correlated with democracy (as we would expect). Also, the country's political "legacy" (GURRLAG5 index) is positively correlated with post-war democracy levels.[22]

Insert Table 4 about here

These regression results reveal that neither Kaufman nor his critics are right since partition is unrelated to post-war levels of democracy. Thus, the concern over democratization processes in post-war states should be focused not on partition, but rather on designing the correct mix of institutional, political, and economic policies, given the conflict's nature and intensity. I now turn to the second key hypothesis of partition theory.

Does Partition Prevent War Recurrence?

While partition theorists have argued that territorial and demographic partition ends civil war, critics of partition theory have argued that partitions simply substitute international for internal war and that ethnic war may still be possible within the boundaries of successor states (Byman 1997; Licklider 1995). There seem to be several examples of wars following partitions to support the critics: Croatia fought a second war with Serbia after Yugoslavia's partition in 1991. Ethiopia and Eritrea fought a bitter territorial war in 1999. The partition of Somaliland collapsed in a wave of new violence in 1992. India and Pakistan fought three wars since their partition in 1947. Cyprus was at war again in 1974 after it was effectively partitioned into militarily defensible, self-administered enclaves between 1963-67.

These examples, however, do not constitute sufficient proof that the critics are right. To develop better insight into the relationship between partition and war recurrence, I present simple cross-tabulations of partition and war recurrence and low-grade violence in Table 5.[23] No statistical association between partition and ending violence is evident.

---

[22] These regression results are robust for a number of specifications and do not change if we control for the possible endogeneity of partition, using two-stage least squares models.

[23] Table 5 includes cases of non-ethnic partition. I also ran these cross-tabs excluding non-identity (ethnic/religious) wars and the results were not at all affected.

Insert Table 5 about here

A better test of the relationship between partition and no-war recurrence can be derived by estimating multi-variable models of no-war recurrence. I estimate such a model where the dependent variable is WAREND, with the suffixes 2, 5, and 10 denoting that it is observed 2, 5, and 10 years after the end of the civil war. WAREND is coded 1 if there is no war recurrence and zero otherwise.[24] According to several studies, most of my explanatory variables are significant determinants of war termination.[25]

The models in Table 6 are very robust to specification tests. The partition variable is an exception, since its estimated coefficient is extremely variable. Few linear combinations of three variables make partition barely significant at the 5-10% level (e.g. the number of land borders, major-power involvement, and the GURRLAG5 variable). However, partition is completely insignificant when other specifications are used. More importantly, if I control only for the number of deaths and not for the number of displaced persons, this yields non-significant coefficients for partition in all models.[26]

Insert Table 6 about here

---

[24] I estimate probit models with clustered same-country observations and robust standard errors. Since partition theory has focused on ethnic wars and since I found the type of war to be a significant determinant of partition, I dropped all cases of non-identity wars from the sample. I later estimated the same models using all the data while controlling for the type of war and reached consistent results.

[25] The explanatory variables and the researchers who identified their importance are: war duration (Mason and Fett 1996); size of the government's military (Mason and Fett 1996); war outcomes (Licklider 1995; Walter 1997); ethnic heterogeneity and population size (Collier and Hoeffler 1999); deaths and displacements (Licklider 1995; Doyle and Sambanis 1999); and income per capita (Collier 1998). Other variables may be relevant, but they are mostly binary and adding them to the model increases the risk of colinearity and inflates the standard errors. I experimented with some of them: MAJOR (was a major power involved?); INTERVEN (was there a third-party intervention?); PEACEOP (was there a third –party peace operation and, if so, what was the type of operation?); BORDER (number of land borders); DECADE (decade the war started); COLDWAR (was it a cold-war conflict?); and GURRLAG5 (pre-war 5-year average level of democracy).

[26] The LOGCOST variable includes measures of refugees and internally-displaced persons. Measurement error is very likely in this case and refugee flows due to partition are not necessarily excluded from measures of displacements (as in Cyprus, India, etc). Thus, LOGDEAD, which only measures deaths, may be a more accurate measure of cost (yet I continue to use LOGCOST in several models and in the endogeneity tests presented in Table 6 so as not to stack the cards against partition theory arbitrarily).

Both models 1 and 2 in Table 6 reveal a positive though insignificant correlation between partition and no-war recurrence. This is important evidence against partition theory, since it suggests that partitions are not significantly different than non-partitions with respect to their impact on war recurrence, controlling for other important variables.

The human cost of the war in both models 1 and 2 is positively correlated with war-recurrence.[27] War outcomes are also very important, though their precise impact is hard to interpret.[28] War duration is significant and positively correlated with no-war recurrence. This result is consistent with the findings of Mason and Fett (1996) and supports the "war weariness" hypothesis (parties engaged in long conflicts grow tired of war and are less likely to repeat it).[29] The size of the government's military is also significant and positively associated with no-war recurrence. This result contradicts Mason and Fett (1996) who suggest a negative correlation. GDP per capita is significant and positively correlated with war recurrence, a finding which confirms the revenue-seeking economic models of civil war (Collier 1998; Collier and Hoeffler 1999).[30]

The interaction of ethnic heterogeneity and population (EHPOP) is not at all significant in models 1 and 2, despite the emphasis on ethnic heterogeneity in the civil war literature (Kaufmann 1998, 1996; Collier and Hoeffler 1999). This important result is broadly consistent with Fearon and Laitin's (1996) analysis of the potential for inter-ethnic cooperation and it is robust to different measures of ethnic division and different model specifications. Since other studies (Collier, Elbadawi and Sambanis 1999) have found that ethno-linguistic and religious fractionalization is a significant determinant of the initiation of civil wars, the present findings suggest that civil war initiation and war recurrence are different phenomena with regard to the impact of ethnicity.

---

[27] The sign of LOGCOST and LOGDEAD in models 1 and 2 is negative, indicating that the higher the human cost, the lower the probability of no-war recurrence.

[28] The OUTCOME2 variable—a categorical variable denoting if the war ended in a truce, rebel victory, government victory, or peace settlement—is highly significant in both models 1 and 2, though interpreting its sign is not straight-forward. By disaggregating OUTCOME2, I find some of its components to be highly correlated with partition. Thus, entering them independently in the regression would increase colinearities. These correlations also generate sufficient concern over the possible endogeneity of partition (PART) when both OUTCOME2 and PART are both included in the model.

[29] I thank Russ Leng for pointing this out to me.

[30] These models use GDP as a proxy for the taxable base of the country, which also captures the potential for "lootable" economic resources. Thus, the greater the GDP, the greater the incentives for loot-motivated war.

Models 1 and 2 reveal results that pertain to the very short-term, since the dependent variable (WAREND2) is observed just two years after the end of the war. To see if the models' results also hold in the medium-term, I estimated model 2 both five and ten years after the end of the war and found that the model's fit worsened with time.[31] A striking result is that, in the 10-year model, ethnic heterogeneity (interacted with population size) and war duration are no longer significant, but *partition is now significant and negatively correlated with no-war recurrence.*[32]

These findings build a strong case against partition theory. I find that partition is not a significant determinant of war recurrence and that, in the longer-term, partitions may even inspire new conflicts.

An important methodological point with substantive implications is that these inferences depend critically on the assumption that partition is exogenous to war recurrence. That assumption makes sense, since war recurrence is observed well after partition is observed. However, these two dependent variables have explanatory variables in common, so there is concern over the possible endogeneity of partition. I therefore estimated several models assuming partition is endogenous and I tested its exogeneity (the technical details of these models and an explanation of the statistical concept of endogeneity are relegated to the appendix). The results are presented in Table 6.

Models 4-5 in Table 6 treat partition as an endogenous variable, but partition is still not significantly correlated with no-war recurrence.[33] Model 3 incorporates a test of exogeneity (a t-test of the estimated coefficient of ERROR, the prediction error in the first-stage equation—see appendix). Based on this test, we cannot reject that partition is exogenous to no-war recurrence and we should accept the findings of models 1-2.

In conclusion, this section has proven that the partition theorists' assertion that partition is the only possible solution to civil war is not supported by the evidence. Hopes of preventing future ethnic wars constitute the most important reason for which some scholars and policymakers have advocated ethnic partition. This analysis proves that the scholars were wrong and that, if policymakers do endorse ethnic partition, they should not do so in hopes of preventing future wars.

---

[31] The pseudo-R^2 for the 5-year model was 17.31% with 76 observations and a Wald X^2 statistic with six degrees of freedom was equal to 18.65, with Prob > X^2 = 0.0048.

[32] The marginal impact of the partition variable was (-.355) and its robust standard error (.1365) with a z-value of (-2.34) and P > |z| = 0.019. The model had a Wald X^2 (6) = 15.27 with Prob > X^2 = 0.0183, 61 observations, and a pseudo-R^2 = 19.40%.

[33] These results are replicated in the 2-Stage Least Squares linear probability model of WAREND2 with robust standard errors (model 5), which is estimated using the same instruments as in the 2-Stage Probit of model 4. Again partition is not significant. This results holds after dropping the six cases of ongoing war.

Does Partition End Ethnic Violence Short of War?

The third critical hypothesis in support of partition is that the physical separation of ethnic groups will reduce low-grade ethnic violence (i.e. violence short of war). In this section, I empirically test this hypothesis and find that, under well-specified conditions, partition is indeed positively and significantly correlated with an end to low-grade violence. This correlation, however, is due to partition's endogeneity to war outcomes and is not robust to different model specifications.

The dependent variable is now NOVIOL, coded one if there is no low-grade violence after the end of the war and zero otherwise. The variable takes the suffixes 2 and 5 when it is measured 2 and 5 years after the end of the war, respectively.

Regressing NOVIOL2 on the explanatory variables from the war-recurrence model, I find that partition is not significantly correlated with an end to low-grade violence (see model 1, Table 7). However, this is a poor model, since partition is negatively correlated to no-violence (we would expect the opposite) and two key variables (size of the military and GDP per capita) are insignificant.

Insert Table 7 about here

Thus, I estimate a fully-parameterized model which finds partition to be significant and positively correlated to an end of low-grade violence (Model 2, Table 7).[34] The significance of partition, however, is not robust to small deviations from model 2. For example, in model 3, I control for rebel victory rather than for all military outcomes and for the number of deaths rather than for the number of deaths *and* displacements, and I find partition to be insignificant. The partition variable is extremely fragile to different specifications of the model, in contrast to most of the other explanatory variables (such as human cost, war duration, war outcome, and the type of UN peace operations). Thus, I can only present weak evidence in support of the hypothesis that partitions help end low-

[34] Model 2 was not designed to achieve the best possible prediction of no-violence, but was rather designed to increase the significance of the partition variable. I checked how well model 2 explains violence outcomes five and ten years after the end of the war (see the last two columns of Table 7). The dependent variables corresponding to the 2- and 5-year periods are NOVIOL5 and NOVIOL10, respectively. I found that partition is barely significant at the 10% level in the 5-year model. Ten years after the end of the war, I find no significant correlations between no-violence and any of my explanatory variables. Partition now has a negative correlation with an end to low-grade violence. However, the 10-year model has very poor fit (see table 7), suggesting that patterns of violence during post-war transitions are highly time-specific. War-to-peace transitions are evolving processes that do not depend in a stable manner on the same determinants over time.

grade ethnic violence. More importantly, this positive impact of partitions on reducing low-grade violence is conditional on the involvement of a major power, on the patterns of third-party partial intervention in the war, on the type of war outcome, on the degree of ethnic heterogeneity (which is now significant without controlling for the size of the ethnic groups), and on the size of refugee movements during the war.

To confirm that these results are not influenced by the potential endogeneity of partitions to low-grade violence, I test once again for exogeneity and present the results in Table 8.[35] Column 3 of Table 8 shows that partition is in fact endogenous in model 2 (since the coefficient of ERROR1 is significant at the 5% level). Controlling for endogeneity does not change the results (partition is also significant in the model of column 1, which assumes exogeneity). These results, however, are extremely sensitive to small changes in the model's specification. Both the endogeneity and the significance of the partition variable (PART) are entirely dependent on the measurement of the human cost variable (i.e. the choice between LOGCOST and LOGDEAD). This is evident in a comparison of the estimated parameters in models 2 and 3 in Table 8 (model 2 controls for war displacements and military outcomes; model 3 controls for people killed and rebel victory). There is no endogeneity or significance for partitions in model 3 (columns 4-6).

Insert Table 8 about here

I should note again (see appendix) that that the endogenous probit models produce inefficient (biased) standard errors, though the efficiency loss is small. Thus, we may rely *with caution* on the significance levels of the variables of interest, since the estimated standard errors may actually be larger. This is not of concern, however, since we have seen that the endogeneity of partitions is removed by small specification changes and we can therefore rely on the simple probit estimates (which treat partitions as exogenous).

Nevertheless, to gauge the level of possible bias in the previous results, I estimated a relatively parsimonious model (dropping non-significant variables) and contrasted the simple probit estimator to various two-stage models. I present these results in Table 9. The first column includes estimates from a simple probit. Column two reports estimates of a 2-stage least squares (2SLS) linear probability model, the results of which are consistent with those of the exogenous model in column 1. Column three reports the

[35] I used the estimation method suggested by Rivers and Vuong (1988), estimating the reduced form of the first-stage equation, obtaining predicted values of partition (PART) and the residual, and using the residual as an explanatory variable in addition to the original value of PART in the second (structural) equation. Since this method is almost identical to Bollen, Guilky, and Mroz (1995—see appendix), I also entered the predicted values (PPART) independently in columns 2 and 5 of Table 8 (assuming endogeneity). Note that the results presented in Table 8 are consistent with results reached using the Newey (1987) method or 2SLS linear probability models of no-violence.

results of a 2-stage probit model using the Bollen, Guilky, and Mroz (1995) method.[36] Column 4 offers an exogeneity test since it includes the actual PART variable and the residual (ERROR1) from the first-stage regression, following the Rivers and Vuong (1988) method. There is no evidence of endogeneity of PART. Column 5 includes bootstrapped estimates of the coefficients and standard errors of the 2-stage probit (column 3) estimates to evaluate the level of bias. The mean bootstrapped coefficient of partition (PPART) is very close to the estimated coefficient of PPART in column 3 (the bias is -.03; the bias-corrected confidence interval is -2.03175, 2.183518), which confirms the Monte-Carlo simulation results discussed in the appendix.[37] The bootstrapped standard errors, however, increase relatively more, which would further confirm that partition is not significant in the 2-stage probit model. In any case, since the t-test of the ERROR1 variable in column 4 does not allow us to reject the null hypothesis that partition is exogenous, we should rely on the estimates from the simple probit in column 1, which show an insignificant correlation between partition and no-low-grade violence.

Insert Table 9 about here

To summarize, I find only weak support of the hypothesis that partitions are significant for an end to low-grade ethnic violence after civil war. Models which support that hypothesis are very sensitive to small specification changes. Although I detected endogeneity in some of these models (partition is endogenous to military outcomes and large-scale population movements during the war), this does not affect the results. The models controlling for endogeneity are also not robust. The substantive conclusion is that, supporting partitions and population movements that deny people their human rights and uproot them from their homelands does not necessarily save them from ethnic violence.

---

[36] This method produces consistent though asymptotically inefficient standard errors. I estimated both the first- and second-stage equations using a probit model, unlike the model in Bollen, Guilky, and Mroz (1995). This generalization of their method can be found in Madalla (1983). The instruments used were the same as in previous models.

[37] Alvarez and Glascow (2000) and Guilky and Mroz (1992), cited in Bollen, Guilky, and Mroz (1995) present evidence from Monte Carlo simulations regarding the negligible bias of the two-stage probit estimates. I use a bootstrapping technique (developed by Efron 1979, 1982) to estimate coefficients and standard errors. Bootstrapping works as follows: N observations are randomly drawn with replacement from my data-set one thousand times. The random draws are based on a random number. To generate reproducible results, I set the number seed to 1111. This process generates the distributions of statistics of interest (in this case the coefficient and standard errors of partition and the other explanatory variables in my model). Based on these distributions, I computed the means and standard deviations of these statistics (reported in Table 9).

Conclusion

Population movements to partition states during or after civil wars are by their nature coerced, painful, and very costly. They violate important human rights, cause tremendous physical and emotional suffering, and may sow the seeds of future conflicts. It is therefore imperative that international policy toward ethnic partitions be informed by rigorous and empirically-verified arguments, rather than by untested theory.

In this paper, I have provided a host of such arguments, starting with an empirical investigation into the determinants of partitions. I have found that partitions are likely to occur as a result of costly ethnic/religious wars that end in rebel victory or truce and in countries with better-than-average socio-economic conditions.

My analysis has also shown that the differences between ethnic and non-ethnic wars with respect to war termination and partition are small. The relationship between the degree of ethnic heterogeneity and the need for partition is not as straight-forward as partition theorists assume.[38] The finding that partition does not significantly prevent war-recurrence suggests that ethnic cooperation may indeed be possible after civil war without partition. At the very least, this shows that separating ethnic groups does not resolve the problem of violent ethnic antagonism. Further, my analysis reveals that partition is only associated with the presence of large ethnic populations, not with ethno-linguistic or religious fractionalization *per se*.

Therefore, as a corollary to this conclusion, future research might test the proposition that combining rather than partitioning ethnicities after civil war may in fact be more effective. Thinking along these lines would perhaps be very useful for Africa in particular, given the ongoing debate about the redefinition of African borders in the hope that this would reduce the incidence of civil wars (see, e.g., Herbst 1996/7). Partition theorists would argue for the partition of warring African states into a multitude of mini-states composed of a single ethnicity. Based on the empirical findings of this paper, I would put forth a rival hypothesis: if borders can in fact be re-drawn, combining several ethnic groups in a larger multi-ethnic state would reduce the probability of new wars.

This paper has also found that partitions are not significantly correlated with democratization, contrary to partition theorists' assertions. Democratization has been

---

[38] In the words of Donald Horowitz (1985, 135): "Is there any reason to believe that the more pronounced the cultural differences that exist between groups, the greater the ethnic conflict? There has been no shortage of offhanded assertions that cultural differences engender ethnic conflict. But... systematic statements of the relationship are more difficult to find."

identified as a crucial determinant of domestic peace in theoretical and quantitative studies (Doyle 1997; Collier, Elbadawi, and Sambanis 1999). Thus, international policy aiming to prevent war recurrence or to stop ethnic violence should promote institution-building and economic reconstruction rather than partition. If partition did lead to more democratic states, as partition theorists argue, then endorsement of partitions might have been justifiable as an indirect way to promote peace through democratization. However, this paper has shown that there is no significant correlation between democratization and partition during war-to-peace transitions. Having identified a host of important determinants of democratization during the crucial two-to-five years following the end of a civil war, I would argue that the international community should try to enhance the potential for democratization by providing peace operations and economic assistance instead of focusing on dividing states. Finally, I found that post-war democratization processes are more successful in countries that enjoyed democratic institutions before the war. Thus, my analysis suggests that democracy breeds more democracy, even if violent ethnic war intervenes.

This paper has also analyzed the determinants of war recurrence and has found that the probability of a new war increases as the deaths and displacements also increase, as per capita income rises, and as divided ethnic groups become larger.[39] By contrast, military outcomes to the war and a strong government army significantly reduce the probability of war recurrence. Thus, if the international community's interest lies in preventing new civil wars, it could take steps to enhance the government's military and support decisive outcomes to civil wars. Such a strategy, however, might be indirectly supporting political repression.

Partition theorists would tend to agree with this last point, since they argue that ethnic minorities will be victimized unless they are partitioned. However, my analysis has rejected that hypothesis (although it did so with the narrowest margin of confidence among all the tests included in this paper). I have found only weak evidence that partitions are significant in ending low-grade ethnic violence (i.e. violence short of war). Thus, while it may be true that decisive war outcomes may increase political repression, there is no evidence that partition fares any better in that regard. Furthermore, I have found that the probability of ongoing low-grade violence increases with the number of dead and displaced people from the previous war, as it does if the war ends indecisively (e.g. in a truce), if the government military is strong (which tends to support the repression thesis), and if third-parties stage partial interventions. By contrast, the probability of low-grade violence is lower if wars last long (supporting the war-weariness hypothesis), if UN peace operations are used, and if the rebels achieve a military victory.

---

[39] This correlation between GDP and war recurrence may seem counter-intuitive since we saw that higher GDP is correlated with higher democratization, which is negatively correlated with civil war. The impact of GDP is ambiguous because GDP can be a proxy for both the country's overall development level, which should be positively associated with peace, and a proxy for "loot," inciting new wars (Collier and Hoeffler 1999).

Fine-tuning a war-to-peace transition is a difficult task because peacebuilding strategies can often backfire. For example, promoting economic growth may assist democratization and promote peace, but it can also lead to new wars by expanding the potential economic gains from a new rebellion. Strategies to support the government's pre-war institutions and its military may also achieve peace, but they may do so at the expense of justice. Muddling through this difficult terrain, I would therefore propose an empirically-derived strategy to resolve ethnic wars and prevent their recurrence. This strategy demands a lot: it demands action by the international community, which must take proactive measures to promote democracy to prevent political conflicts from turning violent. If violence does erupt, however, rapid deployment of UN peacekeepers can help, as can the facilitation of negotiated settlements which would ideally result in the integration and downsizing of the government's military. These are time-honored strategies of conflict management which can be effective, according to this empirical analysis. Finally, if border redefinition is an option in the settlement process—and it should be an option only if it does not victimize one party to assist others—then ethnic diffusion rather than ethnic concentration may potentially be a better goal.

In extreme cases, partition may be necessary, indeed inevitable. If years—perhaps decades—of violence have proven that the political, cultural, and physical survival of ethnic minorities is impossible without physical separation, then partition should indeed be a policy option to consider. Nevertheless much more focused research is necessary to identify the conditions that would justify partition. If ethnic groups lived intermingled and intermarried before the war, if they had a pre-war history of peaceful cohabitation and relatively democratic political institutions, and if third parties could offer security guarantees for the first critical years after the war's end, then there is no reason to believe that partition is the only "possible" end to civil war.

On the contrary, this paper has shown that on average, partition does not significantly reduce the probability of new violence and may even sow the seeds of future conflict. To reduce the risk of ethnic violence, a better strategy would be to try to establish equitable and credible systems of governance or even to combine rather than separate ethnic groups. In addition to being potentially more successful, this strategy is also not loaded with subjective and arbitrary assumptions about the necessity for ethnically pure states and about the futility of inter-ethnic cooperation.

Appendix: Testing for the Possible Endogeneity of Partitions

The results of models 1 and 2 in Table 6 were based on the assumption that partition is exogenous to war recurrence. However, a number of explanatory variables are correlated with both partition and no-war recurrence, which causes concern for the possible endogeneity of partition. In such a case, the inferences made about the relationship of partition to no-war recurrence and no-violence would be incorrect. Thus, this appendix discusses the problem of endogeneity and explains how it can be addressed.

Partition (P) and war recurrence (W) form a system of simultaneous equations:

$$P_i = \alpha + \beta_1 \mathbf{M}_i + \beta_2 \mathbf{X}_i + \varepsilon_i \qquad (1),$$
$$W_i = \gamma + \beta_3 P_i + \beta_4 \mathbf{M}_i + \beta_5 \mathbf{Z}_i + \mu_i \qquad (2),$$

where equation (1) determines the incidence of partition (P) and equation (2) determines war-recurrence (W). $\mathbf{M}_i$ is a vector of common variables in the two equations and β_1 is the vector of coefficients of $\mathbf{M}_i$; $\mathbf{X}_i$ is a vector of instrumental variables (correlated with partition but not with war-recurrence) and β_2 is a vector of their coefficients; $\mathbf{Z}_i$ is a vector of variables that are correlated with war-recurrence and β_5 is a vector of their coefficients. Endogeneity stems from the possible correlation between ε_i and μ_i (both of them disturbance terms with mean zero and no correlation to the other explanatory variables). The presence of common explanatory variables in equations (1) and (2) (i.e. the variables in $\mathbf{M}_i$) implies that ε_i and μ_i may be correlated, in which case, a simple probit regression would produce biased estimates.

Thus, we must estimate a model that generates consistent estimates while correcting for the endogeneity without significant efficiency loss. Following Bollen, Guilkey and Mroz (1995) and Rivers and Vuong (1988), I used the two-stage probit model, which has been shown to have attractive properties in relation to alternative estimators.[40] The procedure is very similar to 2SLS: I estimate the reduced form of equation 1 using a probit regression, obtaining predicted values (PHAT) of the dependent variable (PART).[41] I then compute the error of that prediction and plug the predicted

---

[40] The choice of estimator depends on the number of observations, the degree of identification of the model, and number of potentially endogenous variables, and the goodness of fit of equation 1. For a theoretical/technical discussion of these considerations, see Bollen, Guilky, and Mroz (1995); Rivers and Vuong (1988); Newey (1987); and Alvarez and Glasgow (1999). Political science applications of this procedure are Alvarez and Butterfield (1999) and Alvarez (1997).

[41] Note that, use of this method is strictly based on attaining an R^2 no smaller than 10% in

values (PHAT) into equation 2, replacing PART. PHAT is uncorrelated with the disturbance term in equation 1. Then, I estimate equation (2) using a probit regression with robust standard errors and clustered same-country observations, obtaining consistent estimators of the coefficients. The standard errors will be asymptotically inefficient (Amemiya 1978). However, evidence from small-sample Monte Carlo simulations has shown that the efficiency loss is very small.[42] To determine if the two-stage or simple probit estimates should be used, I apply a simple exogeneity test, which involves a t-test of the estimated coefficient of the prediction error (ERROR) which is added as a regressor along with the actual value of PART in equation 2.[43] If ERROR is non-significant, we cannot reject the null hypothesis that PART is exogenous.

Applying this method to the no-war recurrence model, I find that the best results are reached by models that assume exogeneity (e.g. models 1 and 2 in Table 6). To estimate equation 1, I selected the following instrumental variables from the model estimating the determinants of partition: TRUCE (war there a truce?), VREBEL (was there a rebel victory?), GEO (code for the continent), LOGCOST (log of deaths and displacements), and EHPOP (ethnic heterogeneity interacted with population size). The pseudo-R^2 from the first-stage regression was 44.94%, with 79 observations and all instrumental variables were significant at the .05 level. (Note that the reduced form of equation 1 also includes the exogenous variables from the structural equation.) I generated the variable ERROR (the prediction error) by subtracting PART (the actual values of partition) from its predicted values (PHAT). I then estimated the second stage equation of no-war recurrence after 2 years (WAREND2) using PHAT instead of PART. The results are presented in model 4, Table 6. Partition is non-significant. All other variables remain significant with the exception of EHPOP, which is insignificant as in the exogenous models. Model 3 incorporates the exogeneity test as discussed above and finds ERROR to be insignificant. PART is therefore not endogenous and we can rely on the simple probit estimates of no-war recurrence in Table 6. I use the same procedure to analyze the relationship between low violence and partitions (see Tables 8 and 9).

---

equation (1). In my case, the R^2 was higher than 30%. Further, Guilky, Thomas and Mroz (1992) present Monte Carlo simulations that suggest that the models' identification must be less than 75% for the two-step probit estimator to be preferable to the simple probit (i.e. the overlapping variables in the two equations must be fewer than three fourths of the total number of right-hand-side variables in the structural equation). In my model, the overlap is less than 30%, so the model is over-identified.

[42] See Alvarez (1997); and Guilkey, Mroz and Taylor (1992). See also Tauchen (1985). Formulas to compute efficient standard errors can be found in Maddala (1983) and a method to estimate the asymptotically efficient covariance matrix when the model is over-identified has been developed by Amemiya (1978).

[43] Bollen, Guilkey, and Mroz (1995); Guilkey, Mroz and Taylor (1992) find this to be the best-performing among other exogeneity tests.

References

Alvarez, M. and Glascow. 2000. "Two-Stage Estimation of Non-Recursive Choice Models," *Political Analysis* (forthcoming)

_____ and L. Butterfield. 2000. "The Resurgence of Nativism in California? The Case of Proposition 187 and Illegal Immigration," *Social Science Quarterly* (forthcoming).

_____. 1997. *Information and Elections*. Ann Arbor: The University of Michigan Press.

Amemiya, T. 1978. "The Maximum Likelihood and the Nonlinear Three-Stage Least Squares Estimator in the General Nonlinear Simultaneous Equation model," *Econometrica,* 45: 955-68.

Bollen, K. A., D. K. Guilkey, and T. A. Mroz. 1995. "Binary Outcomes and Endogenous Explanatory Variables: Tests and Solutions with an Application to the Demand for Contraceptive Use in Tunisia," *Demography* (February), 32: 1, 111-131.

Buchanan, Allen. 1992. "Self-Determination and the Right to Seccede," *Journal of International Affairs* (Winter), vol. 45, no. 2, pp. 347-65.

Byman, D. L. 1997. "Divided They Stand: Lessons about Partition from Iraq and Lebanon," *Security Studies* (Autumn), vol. 7, no.1, pp. 1-29.

Christie, Clive J. 1992. "Partition, Separatism, and National Identity," *Political Quarterly* (January/March), Vol. 63, no. 1.

Collier, Paul 1999. "On the Economic Consequences of Civil War." *Oxford Economic Papers*, 51: 168-83.

_____, Ibrahim Elbadawi, and Nicholas Sambanis. 1999. "Estimating the Probability of Civil War: A Panel-Data Analysis of 164 Countries with Binary Dependent Variables and Endogenous Regressors." Working paper, World Bank (August/September).

_____ and Anke Hoeffler. 1999. "Justice-Seeking and Loot-Seeking in Civil War," (February) Working Paper, World Bank.

Dahl, Robert A. 1971. *Polyarchy: Participation and Opposition.* New Haven: Yale University Press.

De Figueiredo, Rui and Barry R. Weingast. 1997. "The Rationality of Fear: Political

Opportunism and Ethnic Conflict." Draft Paper (January), presented in a conference at Columbia University.

Doyle, Michael. 1997. "Strategies of Peacebuilding," mimeo (April), Princeton University.

_____ and Nicholas Sambanis. 1999. "The Correlates of Peacebuilding Success," August, working paper, Princeton University.

Efron, B. 1979. "Bootstrap methods: Another look at the Jackknife." *Annals of Statistics*. 7: 1-26.

_____. 1982. *The Jackknife, the Bootstrap, and Other Resampling Plans*. Philadelphia: Society for Industrial and Applied Mathematics.

Etzioni, Amitai. 1992/3. "The Evils of Self-Determination," *Foreign Policy* (Winter), 89: 21-35.

Fearon, James. 1995. "Rationalist Explanations for War," *International Organization* (Summer), Vol. 49, No. 3, 379-414.

_____ and Laitin. 1996. "Explaining Interethnic Cooperation," *American Political Science Review* (December), vol. 90, no. 4, pp. 715-35.

Gagnon, V. P. 1995. "Ethnic Nationalism and International Conflict: the Case of Serbia", *International Security* (Winter), 19:3, 130-66.

Gurr, Ted Robert. 1994. "Peoples Against States: Ethnopolitical Conflict and the Changing World System," *International Studies Quarterly* (September), vol. 38, no. 3, 347-77.

_____. 1993. M*inorities at Risk: A Global View of Ethnopolitical Conflicts*. Washington, DC: USIP.

Heraclides, Alexis. 1991. *The Self-Determination of Minorities in International Politics*. Portland: Frank Cass.

Herbst, Jeffrey. 1996/7. "Responding to State Failure in Africa," *International Security* 21 (Winter).

Horowitz, Donald L. 1985. *Ethnic Groups in Conflict*. Berkeley, CA: University of California Press.

Huntington, Samuel P. 1971. "Civil Violence and the Process of Development," *Adelphi Paper no. 83*. London: International Institute for Strategic Studies.

Kumar, Radha. 1997. "The Troubled History of Partition," *Foreign Affairs* (January/Febrary), vol. 76: 1.

Kaufmann, Chaim. 1998. "When All Else Fails," *International Security* (Fall), vol. 23, no. 2, 120-56.

_____. 1997. "Intervention in Ethnic and Ideological Civil Wars: Why One Can Be Done and the Other Can't," *Security Studies* (Autumn), vol. 6, no. 1, 62-100.

_____. 1996. "Possible and Impossible Solutions to Ethnic Civil Wars," *International Security* (Spring), 20:4, pp. 136-175.

Lake, David A. and Donald Rothchild. 1996. "Containing Fear: The Origins and Management of Ethnic Conflict," *International Security*, Vol. 21, No. 2 (Fall), 41-75.

_____ and _____ (eds). 1998. *The International Spread of Ethnic Conflicts*. Princeton: Princeton University Press

Licklider, Roy. 1995. "The Consequences of Negotiated Settlements in Civil Wars, 1945-1993," *American Political Science Review* (September), 89:3, pp. 681-690.

Lijphart, Arend. 1977. *Democracy in Plural Societies*. New Haven: Yale University Press.

Maddala, G.S. 1983. *Limited Dependent and Qualitative Variables in Econometrics*. Cambridge: Cambridge University Press.

Mason, D. and P. Fett. 1996. "How Civil Wars End: A Rational Choice Approach." *Journal of Conflict Resolution* (December), vol. 40, no. 4, pp. 546-68.

Mearsheimer, John J. and S. Van Evera. 1995. "When Peace means War," *New Republic* (December), 18.

Muller, Edward N. and Erich Weede. 1990. Cross-National Variation in Political Violence: A Rational Action Approach," *Journal of Peace Research*, vol. 34, 624-665.

Newey, W. 1987. "Efficient Estimation of Limited Dependent Variable Models with Endogenous Explanatory Variables," *Journal of Econometrics*, vol. 36, no. 3, pp. 231-50.

Posen, Barry. 1993. "The Security Dilemma and Ethnic Conflict," *Survival* (Spring), vol. 35, no. 1, 27-47.

Regan, P. 1996. "Conditions for Successful Third Party Interventions," *Journal of Conflict Resolution*, vol. 40, no. 1, pp. 336-59.

Rivers, D. and Q. Vuong. 1988. "Limited Information Estimators and Exogeneity tests for Simultaneous Probit Models," *Journal of Econometrics*, 39: 347-66.

Sambanis, Nicholas. 1999. *United Nations Peacekeeping in Theory and in Cyprus: New Conceptual Approaches and Interpretations*. Ph.D. Dissertation (June), Princeton University.

Schaeffer, Robert. 1990. *Warpaths: The Politics of Partition*. New York: Hill and Wang.

Singer, J. D. and M. Small. 1994. *Correlates of War Project: International and Civil War Data, 1816-1992*. Ann Arbor, MI: ICPSR

Tauchen, G. 1985. "Diagnostic Testing and Evaluation of Maximum Likelihood Models," *Journal of Econometrics*, 30: 415-43.

Wagner, Harrison. 1993. "The Causes of Peace," in Roy Licklider, ed., *Stopping the Killing*, New York: NYU Press.

Wallensteen, Peter and Margareta Sollenberg. 1997. "Armed Conflicts, Conflict Termination, and Peace Agreements, 1989-1996," *Journal of Peace Research*, vol. 34, no. 3, pp. 339-58.

Walter, Barbara F. 1997. "The Critical Barrier to Civil War Settlement," *International Organization* (Summer), 51:3, 335-365.

Table 1—Post-World War II Partitions and Secessions

Partitioned State	Kaufmann (1998)	Kaufmann (1996)
Armenia-Azerbaijan-Nag. (1992)	Secession	partition
Pakistan-Bangladesh (1971)	Partition	--
Yugoslavia-Croatia (1991; 1995)	Secession	--
Yugoslavia-Bosnia (1992)	Secession	--
Georgia-Abkhazia (1992-93)	secession	autonomy
Ethiopia- Eritrea (1993)	secession	partition
Somalia-Somaliland (1988)	secession	partition
India—Pakistan (1947)	partition	partition
Palestine—Israel (1947)	partition	partition
Lebanon (1990)	--	partition
Cyprus-TRNC (1974)	partition	partition
Cyprus-TFNC (1964)	--	--
China-Taiwan (1947)	--	--
Georgia—Ossetia	--	--
Kashmir—India/Pakistan (1965)	--	--
USSR—Moldova (1994)	--	--
USSR—Tajikistan (1994)	--	--
Vietnam—North/South (1974)	--	--
Yemen—YAR/YPR (1969)	--	--
Korea—North/South (1953)	--	--

Table 2—Determinants of the Incidence of Partition

Logistic Regression of Partition w/ Robust Standard Errors

Cells include coefficients, (standards errors), odds ratios

** significant at .01 level; * significant at .05 level

	Model 1	Model 2	Model 3a	Model 3b	Model 4
Constant	-9.455796**	-13.13353*	-6.865768	-7.276098	-8.456494**
	(3.403367)	(5.95362)	(3.702501)	(3.910243)	(3.138266)
WARTYPE	2.756235**	2.277975*	2.537376**	2.563987**	1.511414
identity or non-	(.7976684)	(.9982235)	(1.028002)	(1.03958)	(.7954991)
identity war?	15.74047	9.756902	12.64644	12.98749	4.533135
LOGCOST	.7109433**	.7289935**	.7248892**	.7566791**	.6205092**
natural log of deaths	(.2370375)	(.2404796)	(.2833639)	(.3092056)	(.2263398)
& displacements	2.035911	2.072993	2.064502	2.131187	1.859875
EHPOP	3.54e-11**	3.38e-11**	2.81e-11**	2.63e-11**	2.99e-11**
Ethnic heterogeneity	(6.09e-12)	(8.20e-12)	(6.61e-12)	(6.61e-12)	(8.19e-12)
Times population	1	1	1	1	1
TRUCE	3.379544**	2.627393**	2.959331**	2.784331**	2.988815**
did the conflict end	(.9358609)	(.8496392)	(.9544361)	(.9556224)	(.8113218)
in an informal truce?	29.35739	13.83765	19.28506	16.18898	19.86213
VREBEL	2.805749**	2.770591**	2.832422**	2.628584**	2.90134**
did the conflict end	(1.014694)	(1.01471)	(1.064191)	(1.06907)	(.950912)
with a rebel victory?	16.53946	15.96807	16.98656	13.85414	18.19852
GEO	-.8501725**	-.5586109	-.6746577	-.6645059	
Dummy for	(.309642)	(.4947611)	(.4018738)	(.3925068)	
continent	.4273412	.5720031	.5093307	.5145277	
DECADE	-.6526648*	-.4247882	-.4562364	-.4263153	
Dummies for decade	(.3003585)	(.3914219)	(.2737846)	(.2707541)	
in which war started	.5206565	.6539083	.633664	.6529104	
ILLIT		-.0091482			
percent population		(.0295574)			
that is illiterate		.9908935			
GDP		-.0000648			
Real GDP per		(.0001592)			
capita, PPP-adjusted		.9999352			
LIFES		.0452995			
life expectancy at		(.0779304)			
birth		1.046341			
GINI			-.0983048*	-.0964209*	-.1119552*
Income inequality			(.0488386)	(.0460918)	(.0467027)
index			.9063726	.9080817	.8940844
ENERGYS			.0000929	.0000453	.0004845*
Energy consumption			(.000292)	(.0003034)	(.0002222)
p/c—start of war			1.000093	1.000045	1.000485
Observations:	125	117	124	116	124
Log-likelihood:	-29.999087	-26.728184	-26.857928	-26.416776	-29.105964
Pseudo-R2:	0.4842	0.4850	0.5367	0.5312	0.4979
Correctly Classified	88%	88.89%	91.94%	91.38%	88.71%
Reduction in Error:	31.27%	36.36%	53.83%	50.63%	35.33%

Table 3—Pre-War and Post-Partition Polity Indices [1]

	GURR-LAG5	GURR2	Supports Kaufmann?
SOMALIA	3	2	N
LEBANON	0	5	Y
ISRAEL	N/A	20	N/A
BOSNIA	6	8	Y
INDIA	N/A	16	N/A
YEMEN	4	7	Y
KOREA	1	3	Y
CHINA (Taiwan)	5	2 (Taiwan)	N
AZERBAIJAN	3	2	N
PAKISTAN	N/A	13	N/A
ETHIOPIA	1	9	Y
TAJIKISTAN	11	5	N
GEORGIA	11	12	Y
MOLDOVA	1	12	Y
CYPRUS	N/A	20	N/A
CROATIA	6	9	Y
VIETNAM	7	3	N

Table 4—OLS Regressions of Democracy on Partition
w/ Robust Standard Errors
coefficients and standards errors reported (in parentheses)
** significant at the .01 level; * significant at the .05 level

	Democracy 2 years after partition (GURR2)	Democracy 2 years after partition (GURR2)	Democracy 5 years after Partition (GURR5)
PARTITION			
Did the war result in partition?	1.189178 (1.685325)	1.96527 (1.61934)	2.660405 (2.294175)
WARTYPE			
Was it an identity or non-identity war?		-2.207448* (1.01911)	-2.022481 (1.205466)
PEACEOP			
Were there UN or other peace operations?		.8448301** (.3118129)	1.094927** (.4408771)
WARDUR			
Duration of war in months		.0202179** (.0062344)	.0200054** (.0067301)
GARM			
Size of the government military		-.0006775** (.0002499)	-.0008592* (.0003738)
RGDPCH2			
Real income per capita, PPP-adjusted		.0006067 (.0003316)	.0006283 (.0003484)
GURRLAG5			
5-yr average pre-war democracy score		.4753442** (.0922568)	.4566253** (.106595)
CONSTANT		3.384225** (1.140585)	3.433024** (1.242737)
Observations:	121	116	104
Goodness-of-fit:	F(1, 68) = 0.50; P > F = 0.4828	F(7, 65) = 14.46; P > F = 0.0000	F(7, 60) = 10.62; P > F = 0.0000
R^2:	0.0049	0.4091	0.4000

Notes: RGDPCH2 is significant at the 7% level in both GURR2 and GURR5 models (there may be measurement problems causing this result); WARTYPE is significant at the 10% level in GURR5 model.

The results are not affected if we drop all (6) cases of ongoing war. Partition in that case (with 110 observations) has a coefficient and standard error of 1.305271 and 1.711889, respectively. The standard errors in other variables are not significantly different.

Table 5—Cross-Tabs Between Partition, War End, and No Violence

War Ended for:	War Recurrence	Partition	No Partition	Total cases	Pearson Chi-Square Test (1 degree of freedom)
2 years	War	6	31	37	$X^2 = 0.0563$
	No War	16	73	89	$Pr > X^2 = 0.813$
5 years	War	9	30	39	$X^2 = 1.3832$
	No War	12	71	83	$Pr > X^2 = 0.240$
10 years	War	7	34	41	$X^2 = 1.0194$
	No War	6	53	59	$Pr > X^2 = 0.313$
2 years	Violence	14	61	75	$X^2 = 0.1871$
	No Violence	8	43	51	$Pr > X^2 = 0.665$
5 years	Violence.	14	62	76	$X^2 = 0.2064$
	No Violence	7	39	46	$Pr > X^2 = 0.650$
10 years	Violence	11	59	70	$X^2 = 0.0054$
	No Violence	5	28	33	$Pr > X^2 = 0.941$

Table 6—Probit, Two-Stage Probit, and 2SLS Regressions of War Recurrence

Reported are (in that order):
Coefficients, Standards Errors reported (in parentheses), and Marginals (dF/dx)
** significant at the .01 level; * significant at the .05 level

Dependent variable: WAREND2 (Did the War End for Two years?)	**Model 1: Probit Coefficients** assume exogeneity	**Model 2: Probit Coefficients** Assume exogeneity	**Model 3: Model 1 + Predicted ERROR** Exog. Test	**Model 4: Two-Stage Probit** assume endogeneity	**Model 5: 2SLS Linear Prob.** assume endogeneity
PART	.4675507	.1856842	.6313446		.1387129
Did the war result in	(.3941159)	(.3784898)	(.6819386)		(.2355181)
partition?	.1479941	.0611209	.1941839		...
PHAT				.5913822	
Predicted PART,				(.7077184)	
Endogenous model				.2049279	
LOGCOST	-.3252886**		-.3328365**	-.332326**	-.0897743**
natural log of dead &	(.0885536)		(.0854494)	(.085)	(.0213588)
displaced	-.1114577		-.1144016	-.1151588	...
LOGDEAD		-.2682522**			
natural log of dead		(.0956481)			
		-.0909463			
OUTCOME2	.5782091**	.4867044**	.5682588**	.5631912**	.1539604**
outcome of the war—	(.1489188)	(.1456174)	(.1544935)	(.1539989)	(.0372131)
four outcomes	.198119	.1650087	.1953203	.1951591	...
GDP	-.0002298**	-.0002725**	-.0002404**	-.0002382**	-.0000671**
Real income per capita,	(.0000768)	(.0000839)	(.0000714)	(.0000755)	(.0000179)
PPP-adjusted	-.0000787	-.0000924	-.0000826	-.0000825	...
WARDUR	.0049005**	. .004069**	.0051255**	.0050525**	.001221*
Duration of war in	(.0014821)	(.0013147)	(.0016844)	(.001708)	(.0004957)
months	.0016791	.0013795	.0017617	.0017508	...
GARM	.0006856*	.0008484*	.0006697*	.0005926*	.0001236**
size of the gov't military	(.0003447)	(.0004315)	(.0003326)	(.0002988)	(.0000304)
in '000s	.0002349	.0002876	.0002302	.0002053	...
EHPOP	1.14e-11	1.37e-11	1.11e-11	1.34e-11	1.72e-12
Ethnic heterogeneity	(1.06e-11)	(1.24e-11)	(1.10e-11)	(1.29e-11)	(1.59e-12)
times population,'000	3.89e-12	4.66e-12	3.82e-12	4.63e-12	...
CONSTANT	2.881436**	2.042677*	2.959863**	2.982153**	1.351**
	(1.095438)	(1.021513)	(1.058804)	(1.065484)	(.2785242)
ERROR			.2469214		
			(.9434092)		
Observations:	79	79	79	79	79
Log-Likelihood:	-35.363516	-38.399442	-35.327581	-35.557351	...
Pseudo-R2:	0.3115	0.2524	0.3122	0.3077	R^2 = 0.3302
					F(6,45)= 14.83
% Correctly Classified:	76.25%	72.50%	76.25%	77.50%	P>F = 0.000
Reduction in Error:	32.14%	21.42%	32.14%	35.71%	...

Table 7—Probit Regressions of No-Violence (PART assumed exogenous)
Coefficients, Standards Errors reported (in parentheses), and Marginals (dF/dx)
** significant at the .01 level; * significant at the .05 level

Dependent variable: NOVIOL2 (No violence for 2 years?)	**Core Model 1 (from No-War Recurrence)**	**Expanded Model 2**	**Expanded Model 3**	**Model 2 w/ NOVIOL5 (5 yrs later)**	**Model 2 w/ NOVIOL10 (10 yrs later)**
PART	-.1173397	1.199797**	.6952224	.8030144	-.2016296
Did the war result in	(.382458)	(.4588179)	(.5756121)	(.4905215)	(.588907)
partition?	-.0354151	.3525391	.2179602	.1929701	-.0529321
LOGCOST		-.5223588**		-.5321552**	-.1434569
Natural Log of		(.1148021)		(.1172672)	(.1095949)
Deaths/displacements		-.1190405		-.1010965	-.0397195
LOGDEAD	-.2012708*		-.3138064**		
Natural Log of Deaths	(.0868508)		(.0707336)		
	-.0621308		-.0865803		
OUTCOME2	.3539934**				
Outcome of the war—	(.1185438)				
four outcomes	.1092751				
TRUCE		-3.022725**	-1.925652**	-2.967797**	-.7167226
Did the war end in an		(.7741248)	(.7421893)	(.8298819)	(.8073509)
informal truce?		-.3004362	-.2951101	-.2385855	-.1510695
MILOUT		-1.882494**		-1.929345**	-.8828198
Did the war end in a		(.4223771)		(.4418657)	(.4803803)
Military Victory?		-.4902831		-.464703	-.2730445
VREBEL			-.0636766		
Military victory by the			(.6037123)		
rebels			-.0172447		
UNOPS		.5595692**	.4463608*	.7131684**	.1425513
Type of UN peace		(.2106261)	(.1971804)	(.1965163)	(.2376949)
operation, if any		.1275204	.1231525	.1354846	.0394688
GDP	-.0000971				
Real income per capita,	(.0000953)				
PPP-adjusted	-.00003				
WARDUR	.0055333**	.0075538**	.0056893**	.0056921*	.0028134
Duration of war in	(.0019035)	(.0020946)	(.0018943)	(.0029687)	(.0025852)
months	.0017081	.0017214	.0015697	.0010814	.000779
GARM	-.0001866				
Size of the government	(.0002709)				
military	-.0000576				
EHPOP	8.64e-12*				
Ethnic heterogeneity	(3.80e-12)				
* population in '000s	2.67e-12				
EH		.0118966**	.0092106	.0120659*	-.0008874
Ethnic heterogeneity		(.0054007)	(.0050258)	(.0056764)	(.0053524)
index		.0027111	.0025412	.0022922	-.0002457
MAJOR		-.635182	-.5132059	-.7930115	.4178209
Was there a major		(.4774207)	(.3641417)	(.4937591)	(.3998982)
power involved?		-.1349126	-.1345819	-.1361881	.1204863
INTERVEN		.2431056	-.0618314	.1811481	-.1164628
Was there a partial 3rd-		(.4664523)	(.3696712)	(.4767975)	(.5039971)
party intervention		.0540725	-.0171447	.0337408	-.0325905
CONSTANT	.4611069	5.174985**	1.594716*	5.440211**	1.359764
	(.9371432)	(1.280112)	(.7779688)	(1.297022)	1.382238
Observations	79	79	79	76	64
Log-Likelihood	-36.426798	-25.813145	-33.59478	-24.666494	-30.230899
Pseudo-R^2	0.2205	0.4476	0.2811	0.4228	0.1008
Classification success	76.25%	82.50%	80%	82.50%	76.25%

Table 8—Probit Regressions of No Violence & Exogeneity Tests for Partition

Coefficients and Standards Errors (in parentheses) reported

** significant at the .01 level; * significant at the .05 level

Dependent variable: NOVIOL2	Model 2, Assuming PART is Exogenous	Model 2, Assuming PART is Endogenous	Model 2 With Exogeneity Test	Model 3, Assuming PART is Exogenous	Model 3, Assuming PART is Endogenous	Model 3 With Exogeneity Test
PART	1.199797**		3.102773**	.6952224		1.00539
	(.4588179)		(.7686473)	(.5756121)		(1.062802)
PPART		2.981141**			.9735567	
		(.6974166)			(1.064095)	
ERROR1			2.57912**			.4116839
			(.9826157)			(1.375607)
LOGCOST	-.5223588**	-.5603876**	-.5742567**			
	(.1148021)	(.1237784)	(.1287287)			
LOGDEAD				-.3138064**	-.3015169**	-.3112069**
				(.0707336)	(.0713367)	(.0722707)
TRUCE	-3.022725**	-3.970906**	-4.136922**	-1.925652**	-2.036329*	-2.109765*
	(.7741248)	(.9945747)	(1.029862)	(.7421893)	(.9302379)	(.9396101)
MILOUT	-1.882494**	-1.83591**	-1.881158**			
	(.4223771)	(.417109)	(.4146323)			
VREBEL				-.0636766	-.1615568	-.1494816
				(.6037123)	(.7782495)	(.7241343)
UNOPS	.5595692**	.3396208	.350025	.4463608*	.3842851	.3987719
	(.2106261)	(.200846)	(.2073427)	(.1971804)	(.2410587)	(.2437178)
WARDUR	.0075538**	.0092044**	.009044**	.0056893**	.0059408**	.0058713**
	(.0020946)	(.0022266)	(.0021347)	(.0018943)	(.0016182)	(.0017245)
EH	.0118966*	.0112497*	.0111529*	.0092106	.009164	.0090436
	(.0054007)	(.0057092)	(.0056794)	(.0050258)	(.0051547)	(.0050582)
MAJOR	-.635182	-.7059195	-.7640957	-.5132059	-.4606447	-.5287535
	(.4774207)	(.5077376)	(.4736401)	(.3641417)	(.3720948)	(.3661297)
INTERVEN	.2431056	.2522566	.3041237	-.0618314	-.0970134	-.0551541
	(.4664523)	(.4811071)	(.4997109)	(.3696712)	(.3748457)	(.3681889)
CONST.	5.174985**	5.4026**	5.565602**	1.594716*	1.472595	1.560312*
	(1.280112)	(1.366388)	(1.412317)	(.7779688)	(.7808925)	(.78567)
Observations	79	79	79	79	79	79
Log-Likel.:	-25.813145	-24.362231	-24.114537	-33.59478	-33.990883	-33.541741
Pseudo-R2:	0.4476	0.4787	0.4840	0.2811	0.2726	0.2822

Table 9—Comparisons of Endogenous Models of No-Violence
(PART Assumed Endogenous—instruments: GEO, VREBEL, EHPOP, LOGCOST)
Coefficients and Standards Errors (in parentheses) reported
** significant at: the .01 level; * at the .05 level

Dependent variable: NOVIOL2	Probit model (PART assumed exogenous)	2SLS Linear Probability model (robust se)	2-Stage Probit model (Bollen et. al.) (robust se)	2-Stage Probit model w/ exogeneity test (Rivers & Vuong) (robust se)	Bootstraps[2] (1,000 reps) of 2-Stage Probit (of column 3)
PART	.4661597	.1009254		-.0309128	
	(.391604)	(.1640547)		.5031775	
PPART			-.0042727		-.0344683
			(.5099365)		(1.181654)
ERROR1				-.8915839	
				(.6411209)	
LOGCOST	-.4808962**	-.0801026**	-.4411599**	-.4611771**	-.5545976
	(.1118162)	(.0223824)	(.0980823)	(.1075544)	(.2758333)
WARDUR	.0057357*	.001268*	.0052047*	.0053461*	.0057597
	(.0023759)	(.0005909)	(.0023586)	(.002441)	(.0042879)
EH	.0167294**	.0034935**	.0162025**	.0166898**	.0202565
	(.0057792)	(.001289)	(.0058588)	(.0059472)	(.0113026)
GURRLAG5	-.0748628*	-.0150666*	-.074177*	-.0736467*	-.0912548
	(.0316421)	(.0080138)	(.031699)	(.0324005)	(.0636829)
OUTCOME2	.663262**	.1321149**	.6709066**	.6876048**	.8656116
	(.1512262)	(.0343555)	(.1462798)	(.1567451)	(.4044652)
CONST.	2.357025*	.7722106*	2.077755	2.211974*	
	(1.147271)	(.3212511)	(1.083811)	(1.129779)	...
Observations	76	76	76	76	1,000
Log-Lik.	-28.170411	...	-28.629618	-27.792921	...
R^2	0.3569	0.3109	0.3464	0.3655	...

[1] If the predecessor state was a colony before the war started, then we do not have a GURRLAG5 score since the index is only available for sovereign states. Those cases are marked as N/A, as are cases in which the country's independence was the result of a civil war, as in the case of Israel.

[2] Coefficient means and standard deviations (in parentheses) are reported.

Policy Research Working Paper Series

	Title	Author	Date	Contact for paper
WPS2187	Who Determines Mexican Trade Policy?	Jean-Marie Grether Jaime de Melo	September 1999	L. Tabada 36896
WPS2188	Financial Liberalization and the Capital Account: Thailand, 1988–97	Pedro Alba Leonardo Hernandez Daniela Klingebiel	September 1999	R. Vo 33722
WPS2189	Alternative Frameworks for Providing Financial Services	Stijn Claessens Daniela Klingebiel	September 1999	R. Vo 33722
WPS2190	The Credit Channel at Work: Lessons from the Republic of Korea's Financial Crisis	Giovanni Ferri Tae Soo Kang	September 1999	K. Labrie 31001
WPS2191	Can No Antitrust Policy Be Better Than Some Antitrust Policy?	Aaditya Mattoo	September 1999	L. Tabada 36896
WPS2192	Districts, Spillovers, and Government Overspending	Reza Baqir	September 1999	S. Devadas 87891
WPS2193	Children's Growth and Poverty in Rural Guatemala	Michele Gragnolati	September 1999	M. Gragnolati 85287
WPS2194	Does Democracy Facilitate the Economic Transition? An Empirical Study of Central and Eastern Europe and the Former Soviet Union	Jean-Jacques Dethier Hafez Ghanem Edda Zoli	October 1999	H. Ghanem 85557
WPS2195	Aggregating Governance Indicators	Daniel Kaufmann Aart Kraay Pablo Zoido-Lobatón	October 1999	D. Bouvet 35818
WPS2196	Governance Matters	Daniel Kaufmann Aart Kraay Pablo Zoido-Lobatón	October 1999	D. Bouvet 35818
WPS2197	Production Sharing in East Asia: Who Does What for Whom, and Why?	Francis Ng Alexander Yeats	October 1999	L. Tabada 36896
WPS2198	How the Chinese System of Charges and Subsidies Affects Pollution Control Efforts by China's Top Industrial Polluters	Hua Wang Ming Chen	October 1999	H. Wang 33255
WPS2199	Managing Risks of Capital Mobility	Mansoor Dailami	October 1999	W. Nedrow 31585
WPS2200	The Role of Trust in Financial Sector Development	Biagio Bossone	October 1999	E. Mekhova 85984

Policy Research Working Paper Series

	Title	Author	Date	Contact for paper
WPS2201	Financial Development and Industrial Capital Accumulation	Biagio Bossone	October 1999	E. Mekhova 85984
WPS2202	Specialization without Regret: Transfer Rights, Agricultural Productivity, and Investment in an Industrializing Economy	Michael R. Carter Yang Yao	October 1999	M. Fernandez 33766
WPS2203	Market versus Administrative Reallocation of Agricultural Land in a Period of Rapid Industrialization	Michael R. Carter Yang Yao	October 1999	M. Fernandez 33766
WPS2204	Corruption under Moral Hazard	Gunnar S. Eskeland Henrik Thiele	October 1999	H. Sladovich 37698
WPS2205	Foreign-Owned Capital and Endogenous Tariffs	Marcelo Olarreaga	October 1999	L. Tabada 36896
WPS2206	Household Childcare Choices and Women's Work Behavior in Russia	Michael M. Lokshin	October 1999	P. Sader 33902
WPS2207	Jamaica's Food Stamp Program: Impacts on Poverty and Welfare	Kene Ezemenari Kalanidhi Subbarao	October 1999	G. Peralta 37405